O.E.C.D. No.: 494
Printed: December 1975

Report on test in accordance with
O.E.C.D. STANDARD CODE for the Official Testing
of Agricultural Tractors



FENDT-AGRICULTURAL TRACTOR FARMER 203

Manufactured by: X. FENDT UND CO, Maschinen- und Schlepperfabrik
D-8952 Marktoberdorf

Date of Tests: January till April 1975

DLG-Testing Station for Agricultural Machinery
D-6114 Groß-Umstadt

DEUTSCHE LANDWIRTSCHAFTS-GESELLSCHAFT e.V.
Prüfungsabteilung für Landmaschinen
D-6000 Frankfurt/Main 1, Zimmerweg 16

This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractors. It does not contain an evaluation of the performance of the tractor on practical work.

This report has been approved by the O.E.C.D. Coordinating Center (C.N.E.E.M.A., France) as being in accordance with the O.E.C.D. STANDARD CODE.

Date of approval: 17th November 1975

Serial No.: 494

The FENDT FARMER 203 tractor is available in 2 models: 203 V and 203 P. The tests were carried out on a 203 V model. As the engine and transmission are exactly the same for both models, the power take off and the engine performance tests are valid for 203 V and 203 P models. As the 203 P model only differs from the 203 V model by the track widths and the optional wheel equipment, the drawbar and other performances should not be significantly different from one model to the other when the tractors are equipped with the same wheels and set to the same track width. In order to have comparable performances between the 2 models, the 203 V model tractor was equipped with wheels and set to a track width available on both models.

All specifications relating to the 203 P model are notified separately.

In this report all performance charateristics are given according to the International System of Units.

The relation with the former used Technical System of units is given by the following formulas:

Forces:	1 N	=	0,102 kp	or	1 kp	=	9,81 N
Powers:	1 kW	=	1,36 PS	or	1 PS	=	0,736 kW
Pressures:	1 bar	=	1,02 kp/cm²	or	1 kp/cm²	=	0,981 bar
	1000 mbar = 750,1 mm Hg						

All rights including the right of translation, reprint and photomechanical copying - also of excerpts - reserved by DEUTSCHE LANDWIRTSCHAFTS-GESELLSCHAFT e.V., D-6000 Ffm. 1

Printed in Germany

TABLE OF CONTENTS

	Page
Specification of tractor	4 to 12
Fuel and lubricants used in tests	12
COMPULSORY TESTS	
(1) Main power take-off performance	13 to 15
(2) Drawbar performance on a concrete track	16 to 17
(3) Turning space and turning circle	18
(4) Location of centre of gravity	18
(5) Braking performance	19
(6) Ambient noise, emitted by the tractor	20
(7) Noise at the driver's ear level	20
(8) Power lift and hydraulic pump performance	21 to 24
OPTIONAL TESTS	
(9) Engine performance	25 to 28

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

Tractor manufacturer:	X. FENDT UND CO D-8952 Marktoberdorf
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Marktoberdorf and Groß-Umstadt
Duration of running-in:	Engine and tractor appr. 100 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	X. FENDT UND CO.
Model:	FARMER 203 (see note on page 2)
Type:	Wheeled tractor, unit construction, rear wheel driven
Serial No:	155/03/0137

Engine

Make:	KLÖCKNER-HUMBOLDT-DEUTZ AG
Model:	F3L 912
Type:	4-stroke Diesel engine with direct injection; watercooled
Serial No:	536 58 46
Cylinders:	3 in line, bore 100 mm, stroke 120 mm; displacement 2826 cm^3; compression ratio 17:1; replaceable ribbed single cylinders
Valves:	Overhead
Fuel system:	PIERBURG fuel feed pump PE 15252; BOSCH in line injection pump: PES 3 A 75 D 410/3 RS 1185; manufacturer's production setting 54 mm^3/stroke at 2300 rev/min and full load; injection timing 28° before TDC; BOSCH multihole injection nozzles DLLA 149 S 394; injection pressure 175 bar; MANN-fuel filter with replaceable cartridge; capacity of fuel tank 37 l
Governor:	BOSCH centrifugal variable speed type governor: EP/RSV 325-1150 A8B 705 DL; governed range of engine speed: 700-2420 rev/min; rated speed 2300 rev/min

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

Air cleaner:	MANN UND HUMMEL dry paper element filter with precleaner incorporated and replaceable cartridge; maintenance indicator
Exhaust silencer:	Own make; multi-chamber-reflection type silencer; 125 mm diameter, 420 mm long; on the left hand side of tractor; mouth showing rearward under 45° to the left; (optional: silencer with mouth showing upwards is available)
Lubrication system:	Forced feed from gear type pump; strainer in sump; MANN oilfilter in full flow with by-pass valve and replaceable paper cartridge; oil capacity 7,5 l; oil changing period 100 till 120 hours; recommended oil quality MIL-L-2104B or DEF 2101D; recommended oil viscosities: winter SAE 10W summer SAE 20W/20 tropics SAE 30
Cooling system:	Air cooling with axial blower; V-belt driven
Starting system:	Electrically; BOSCH starter motor JF (R) 12V 1,8 kW; flame plug in intake pipe
Electrical equipment:	12 Volt, negative earth; BOSCH 3 phase alternator 0 120 300 552; 1 lead acid battery 88 Ah at 20 hours rating

Transmission

Clutch:	FICHTEL UND SACHS AG independent double disc type clutch: DUT 250 L; travel drive pedal operated; p.t.o. drive hand lever operated

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

Gear box:	Own make; synchromesh speed change gear with 6 forward and 2 reverse speeds; group gear collar shifted with 1 fast and 1 slow group; 1 high speed gear independent from group gear; total 13 forward and 4 reverse speeds
Rear axle and final drive:	Bevel gear drive with crown wheel and pinion; bevel gear type differential, with lock fitted; pedal operated, self disengaging; spur gear final drives
Oil capacity:	Speed change gear, group gear and rear axle total 23 l final drives each 1,25 l
Recommended oil qualities:	Transmission oil MIL-L-2105 (A) SAE 80
Oil changing period:	1000 hours or yearly

Total ratios and speeds see page 7

Power take-off

Independent p.t.o.;
driven through the hand lever operated disc of the double disc type clutch;
operated by hand lever;
at rear of tractor;
493 mm above ground, in median plane of tractor;
29 x 34,9 x 8,7 mm = 1 3/8"; 6 splines;
(DIN 9611 Form 1; BS. 1495; ASAE S 203.7)
2 speeds are preselectable by hand lever:

540 rev/min p.t.o.
607 rev/min at rated engine speed;
540 rev/min standard p.t.o. speed at
2046 rev/min engine speed

1000 rev/min p.t.o.
1119 rev/min at rated engine speed;
1000 rev/min standard p.t.o. speed at
2055 rev/min engine speed

Total ratios and speeds

Group	Gear	Total ratio engine : driving wheel	Nominal travelling speed at rated engine speed *) km/h	m/s
Forward speeds				
Slow group	1	331,08	1,42	0,39
	2	200,25	2,34	0,65
	3	114,14	4,10	1,14
	4	80,10	5,85	1,62
	5	48,45	9,66	2,68
	6	27,61	16,95	4,71
Fast group	1	263,23	1,77	0,49
	2	159,21	2,94	0,82
	3	90,75	5,16	1,43
	4	63,68	7,35	2,04
	5	38,52	12,16	3,38
	6	21,96	21,33	5,92
Independent high speed gear		17,83	26,25	7,29
Reverse speeds				
Slow group	1	192,24	2,43	0,68
	2	46,51	10,07	2,80
Fast group	1	152,84	3,06	0,85
	2	36,98	12,66	3,52

*) calculated with the rolling radius 540 mm
acc. to WdK 154

Power take-off (Continuation)

P.t.o. speeds may be set by aid of tractor-meter;
direction of rotation anticlockwise, viewed from tractor rear

Power lift

Own make;
hydraulic power lift;
disintegrated construction;
power control, position control, both stepless mixable, floating position;
BOSCH gear type pump with 11 cm^3/rev delivery;
directly driven by engine;
(with hydrostatic steering a gear type pump with 14 cm^3/rev delivery is installed);
1 single acting external ram:
63 mm bore, 165 mm stroke;
BOSCH control valve;
maximum oil pressure 175 bar;
no overpressure relief valve in ram;
2 oil tappings for single acting or 2 oil tappings for double acting additional BOSCH control valves or suitable combinations are optional available;
hydraulic oil tank with 12 l capacity;
5,5 l may be taken off if tractor is working driving, 10 l if stationary;
hydraulically acting linkage lock for transport;
recommended oil quality: HLP 25;
oil changing period 1000 hours

Implement linkage

Three point linkage category I (DIN 9674);
operated by power lift;
lift rods length adjustable from 480 to 595 mm;
lifting range above ground with
lift rods short: from 260 to 830 mm
lift rods long: from 35 to 650 mm
(optional: a small three point linkage with 400 mm distance between the ball joints or a vertical lifting device of own construction is available)

Holed bar

Fitted on the clevis of lower links;
length between the ball joints 700 mm;
thickness of the bar 25 mm;
centre hole and 3 holes on either side with 80 mm distance each;
all holes 22 mm diameter;
height above ground adjustable by power lift within the range from 48 to 843 mm depending on lift rods length, measured at the surface of the bar;
within this range in all positions hydraulically lockable by means of sinking throttle;
distance of centre hole with lower links in horizontal position:
to rear axle centre 824 mm
to p.t.o. shaft end 497 mm

Pull attachment

Trailer hitch:

Own make;
height above ground 331, 361, 670, 700 mm;
changeable by shifting and turning hitch;
diameter of clevis hole 32 mm;
distance of centre of clevis hole to rear axle centre:
446 mm at 331 and 361 mm height or
436 mm at 670 and 700 mm height above ground;
permissible bearing load 1000 kg

Towing hitch:

Height above ground 505 mm

Steering

ZAHNRADFABRIK FRIEDRICHSHAFEN AG
2F-Gemmer steering 7328;
operated by hand wheel;
acting on front axle;
(optional: ZF-hydrostatic steering with BOSCH flow dividing valve available;
fed to the hydraulic system of power lift;
ram with 45 mm bore and 135 mm stroke;
directly acting on front axle;
not fitted on tractor tested)

Brakes

Parking brake:	Band brake; mechanically acting on 2 brake drums with 205 mm diameter on the differential half shafts; operated by hand lever with ratchet
Foot brake:	Servo internal shoe type brake; mechanically acting on 2 brake drums with 180 mm diameter on the differential half shafts; pedal operated Both brakes do not interact mutually
Steering brake:	Divided pedal of foot brake; for normal use locked together

Wheels

Steering wheels:	Two pneumatics at front 5,50-16 AS 4 ply; maximum permissible load on each tyre 488 kg at 2,25 bar inflation pressure and 25 km/h; track width: 203 V 770 to 1130 mm in 3 steps 120 mm each 203 P 976 to 1516 mm in 3 steps 120 mm each by extending telescopic half axles; rims 3,50 D x 16
Driving wheels:	Two pneumatics at rear 12,4-24 AS 6 ply; maximum permissible load on each tyre 1280 kg at 1,7 bar inflation pressure and 25 km/h track width with disc wheels make SÜDRAD: 203 V 773 and 1021 mm 203 P 1108 and 1356 mm changeable by reversing wheels; with track adjustment wheels other track widths are adjustable by turning wheels and offset lug type rims: 203 V from 709 to 1245 mm 203 P from 976 to 1480 mm rims W9 x 24
Wheel base:	1916 mm

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

Other wheels:	Optional following wheels are available	
	203 V	203 P
front	5,00-16 AS 4 ply	6,00-16 AS 6 ply
		7,5L-15 AS 6 ply
rear	11,2-24 AS 6 ply	12,4-28 AS 6 ply
	11,2-28 AS 6 ply	13,6-26 AS 6 ply
	9,5-24 AS 6 ply	13-24 /11,25-24 AS 6ply *)
	9,5-28 AS 6 ply	
	8,3-28 AS 4 ply	

Overturning protection frame: Own make;
tiltable steel tube guard;
LBG-tested acc. to UVV of BRD; B-J-1/D

Weights: Ready for use as tested

		without driver	with driver
Without ballast:	front	595 kg	610 kg
	rear	985 kg	1050 kg
	total	1580 kg	1660 kg
front ballast:	1 ground plate		100 kg
	4 front weights	32 kg each	128 kg
rear ballast:	3 weights per wheel	32 kg each	192 kg
	water in the tyres		165 kg
With ballast:	front	885 kg	900 kg
	rear	1280 kg	1345 kg
	total	2165 kg	2245 kg

Number of grease points (whole tractor) 18

Seat: GRAMMER
DS 44 L;
upholstered seat with back rest;
adjustable spring with shock absorber;
parallelogram guidance;
height of seat platform above ground 580 mm;
height of seat above platform 490 mm,
seat not compressed;
in longitudinal direction 50 mm displaceable;
in the height not adjustable

*) no standard tyre, special production of MICHELIN

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

Dimensions

Total length: 3350 mm with 3 point linkage without ballast
3429 mm with 3 point linkage with ballast

Total width:

203 V	203 P	
1024 mm	1314 mm	at smallest track width
1565 mm	1759 mm	at largest track width

Total height: 2000 mm to top of protection frame
1300 mm to top of steering wheel

Ground clearance: 301 mm in tractor's median plane

Lighting equipment: Electrically, 12 V
acc. German governmental regulations

	Dimensions mm	Height above ground to centre mm	Distance from outside edge of tractor to centre 203 V mm	203 P
Head lights	135 x 115	775	360	500
Side lights	90 x 32	1224	150	210
Rear lights	45 x 50	1250	150	210
Reflectors	82 ø	1160	113	212

FUELS AND LUBRICANTS USED IN TESTS

Fuel: ARAL-Diesel fuel (DIN 51601)
specific gravity at 15°C:
at laboratory tests 0,828 kg/l
at drawbar tests 0,830 kg/l

Engine oil: ESSO HD 20W/20

Transmission oil: MIL-L-2105 (A) SAE 80

Hydraulic oil: HLP 25

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE

Date of tests: 10th February 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

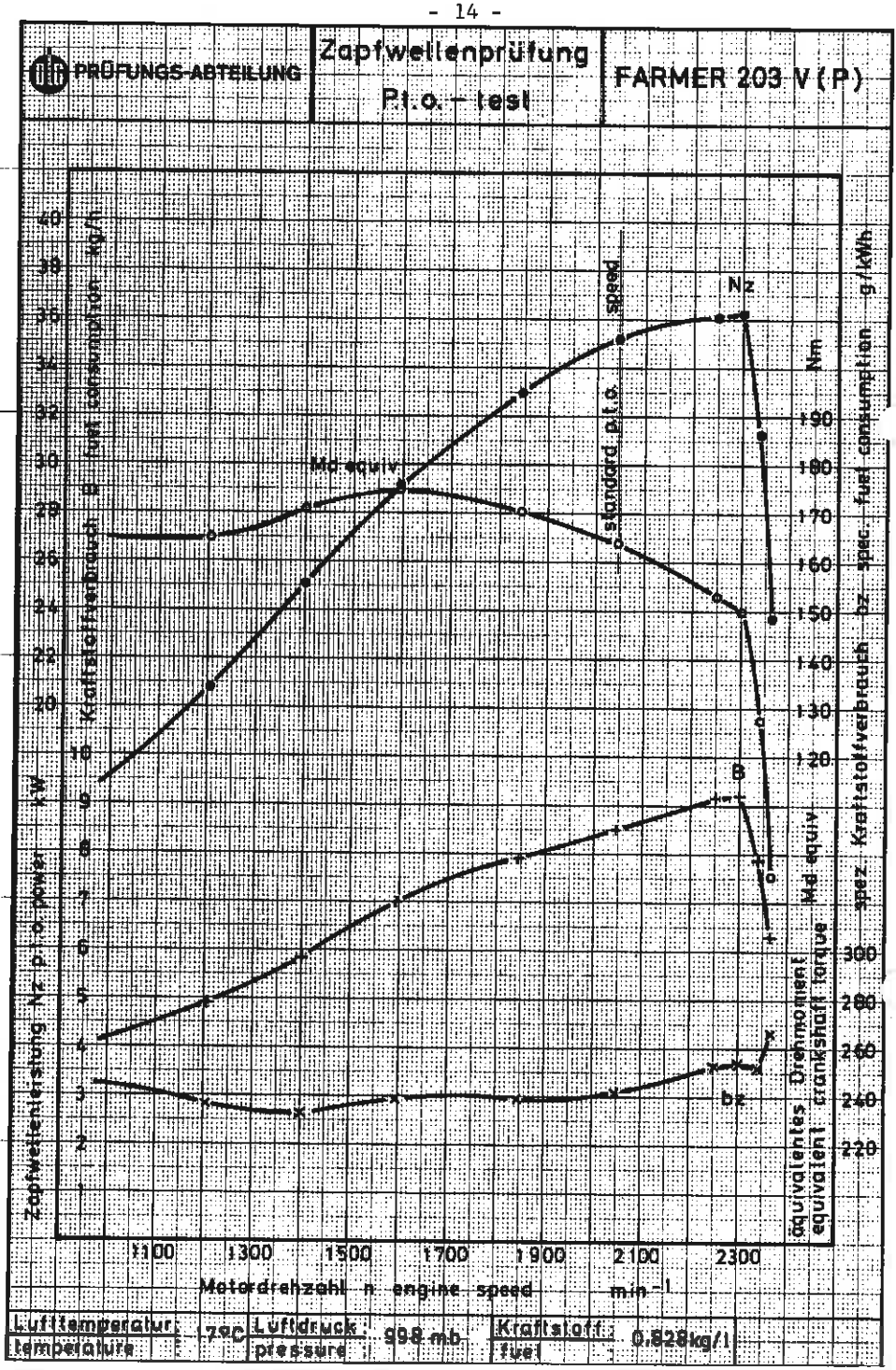
Maximum power

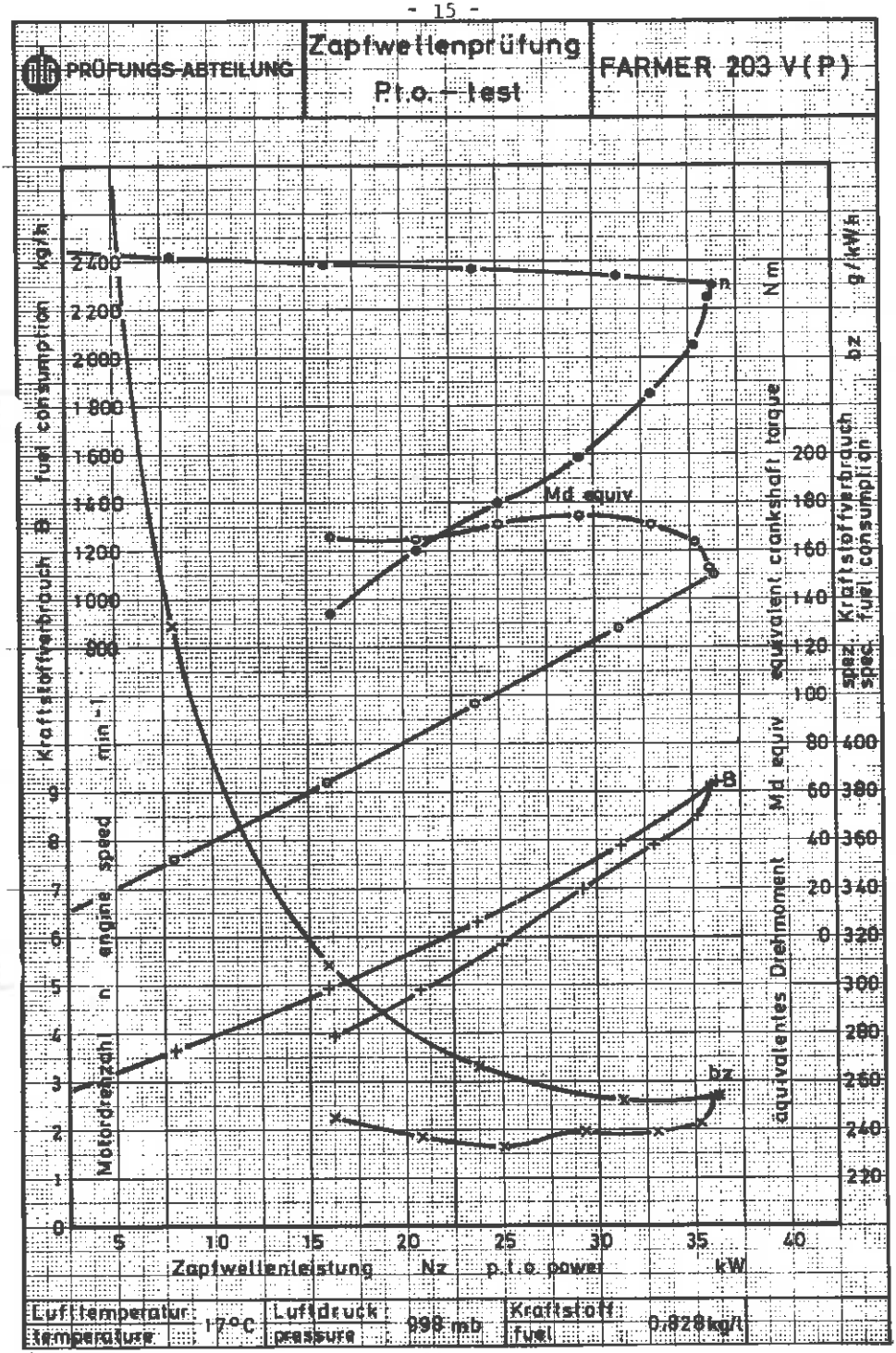
Power kW	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total 1/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
At maximum power 2-hour test						
36,2	2300	607	11,10	9,10	254	3,26
At standard p.t.o. speed (540 rev/min)						
35,2	2046	540	10,29	8,52	242	3,42
At the speed recommended for drawbar work						
36,2	2300	607	11,10	9,10	254	3,26
Part loads						
(i) 85% of the torque at maximum power						
31,3	2341	618	9,54	7,90	252	3,28
(ii) unloaded						
-	2457	648	2,90	2,40	-	-
(iii) 50% of the load defined in (i)						
16,0	2392	631	5,59	4,93	308	2,67
(iv) maximum power						
36,2	2300	607	11,10	9,19	254	3,26
(v) 25% of the load defined in (i)						
8,1	2422	639	4,40	3,64	449	1,84
(vi) 75% of the load defined in (i)						
23,7	2367	625	7,61	6,30	266	3,11

No load maximum engine speed: 2457 rev/min
Equivalent crankshaft torque at maximum power: 150 Nm
Maximum equivalent crankshaft torque: 175 Nm at 1590 rev/min of the engine

Mean atmospheric conditions:
- temperature 17°C
- pressure 998 mbar
- relative humidity 50%

Maximum temperatures:
- coolant not recorded
- engine oil 100°C
- fuel 18°C


PRÜFUNGS-ABTEILUNG
Zapfwellenprüfung
P.t.o. - test
FARMER 203 V (P)
Zapfwellenleistung Nz p.t.o. power kW
Kraftstoffverbrauch B fuel consumption kg/h
Mz equiv.
standard p.t.o. speed
Nz
Nm
spez. Kraftstoffverbrauch bz spec. fuel consumption g/kWh
B
Mz equiv.
äquivalentes Drehmoment equivalent crankshaft torque
bz
1100
1300
1500
1700
1900
2100
2300
Motordrehzahl n engine speed
min⁻¹
Lufttemperatur temperature
Luftdruck pressure
998 mb
Kraftstoff fuel
0.828kg/l


PRÜFUNGS-ABTEILUNG
Zapfwellenprüfung
P.t.o. – test
FARMER 203 V(P)
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed min⁻¹
äquivalentes Drehmoment Md equiv equivalent crankshaft torque Nm
spez. Kraftstoffverbrauch bz spec. fuel consumption g/kWh
Md equiv
n
B
bz
Zapfwellenleistung Nz p.t.o power kW
Lufttemperatur temperature 17°C
Luftdruck pressure 998 mb
Kraftstoff fuel 0,828kg/l

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

(2) DRAWBAR PERFORMANCE

Date of tests: 14th till 23rd April 1975
Type of track: Concrete

Gear No. and Group	Speed km/h	Power kW	Drawbar pull N	Engine speed rev/min	Slip of wheels %	Specific energy kWh/l
(i) MAXIMUM POWER with ballast height of drawbar above ground 660 mm						
1 slow	1,27	6,3	17750	2398	15,0	1,45
1 fast	1,60	7,9	17710	2375	15,0	1,67
2 slow	2,09	10,3	17710	2385	15,0	1,92
2 fast	2,60	12,8	17690	2363	15,0	2,15
3 slow	3,56	17,5	17700	2341	15,0	2,42
3 fast	4,41	22,0	17750	2321	15,0	2,55
4 slow	4,99	24,4	17600	2311	15,0	2,63
4 fast	6,23	29,2	16830	2300	14,5	2,62
5 slow	8,59	29,8	12490	2300	10,3	2,68
5 fast	11,08	30,2	9760	2300	8,2	2,68
6 slow	15,82	30,7	7000	2300	5,7	2,72
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 3rd gear of fast group						
3 fast	4,71	17,4	13290	2356	10,6	2,42
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
4 slow	-	-	17750	2310	-	-
(v) MAXIMUM POWER without ballast height of drawbar above ground 700 mm						
4 slow	5,01	18,1	13000	2366	15,0	2,43
4 fast	6,24	22,4	12950	2319	15,0	2,52
5 slow	8,05	28,8	12900	2300	15,0	2,57
5 fast	10,56	30,2	10270	2303	11,4	2,66
6 slow	15,23	30,0	7050	2300	8,1	2,68

Total oil consumption during ten hours duration of tests (ii) and (iii): 51 g/h

PRÜFUNGS-ABTEILUNG

Test No. 74-171

Tyres make and size — front: METZELER 5,50-16 AS FRONT 4 ply
rear: MICHELIN 12,4-24 AS 6 ply

Specific fuel consumpt. g/kWh	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 1,7 bar rolling radius of tyres under static load 536 mm						
574	19	-	78	15	80	1009
498	19	-	80	15	81	1009
433	19	-	88	14	86	1009
368	17	-	80	13	90	1009
344	16	-	85	13	93	1009
325	16	-	80	12	92	1009
314	15	-	86	12	97	1009
315	17	-	86	12	89	1000
309	17	-	85	12	90	1000
308	16	-	84	12	90	1000
306	16	-	82	13	93	1009
342	22	-	82	16	65	1010
-	15	-	80	8	92	1010
tyre inflation pressure 1,1 bar rolling radius of tyres under static load 528 mm						
343	15	-	88	10	73	1008
328	20	-	80	13	94	1002
324	15	-	80	10	77	1008
313	15	-	81	10	73	1008
312	15	-	80	10	73	1008

Test (iii) was carried out with additional ballast, the figures not quoted are therefore irrelevant

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 5,50-16 AS Front 4 ply
rear: 12,4-24 AS 6 ply

Track of wheels front: 770 mm
rear: 773 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	2,84	2,78	3,17	3,00
Radius of turning circle	2,73	2,67	3,06	2,89

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	670 mm
Distance forward from the vertical plane containing the axis of the rear wheels	704 mm
Distance of the median plane of the tractor to the left hand side	3 mm

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

(5) BRAKING PERFORMANCE

A) FOOT BRAKE

Date of tests: 16th April 1975
Type of track: Concrete
Type of decelerometer: MOTO METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 2245 kg with driver

Cold brakes

		With ballast	without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	3,8	3,8
Stopping distance	m	7,2	7,6
Force on pedal	N	345	325
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	225	187
Brake fade characteristics (hot test)			
Deceleration hot/cold	%	79	75
Stopping distance cold/hot	%	75	76
Force on pedal cold/hot	%	100	100

B) PARK BRAKE

Tractor facing up slope:
Pull on hand brake 130 N, tractor does not roll

Tractor facing down slope:
Pull on hand brake 140 N, tractor does not roll

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 15th April 1975
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER, type 2203

Results of test

Gear: Independent high speed gear
Travelling speed before acceleration: 20,3 km/h
Sound level: 90 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 15th April 1975
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER, type 2607
Type of frequency analyser: BRÜEL AND KJAER, type 1614
(fitted with octave filter)

The tractor was fitted out with an overturning protection frame

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level N	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)
1 slow	12890	1,46	1,26	92
1 fast	12890	1,83	1,62	93
2 slow	12850	2,41	2,09	93
2 fast	12930	3,03	2,67	93,5
3 slow	12930	4,23	3,64	94
3 fast	12930	5,32	4,52	95
4 slow	12930	6,03	5,13	95
4 fast *	12930	7,58	6,35	96,5
5 slow	12800	9,97	8,27	98
5 fast	9890	12,54	10,75	98
6 slow	6980	17,49	15,40	97
S	light load	27,09	26,34	93,5

*) The 4th fast gear corresponds to the travelling speed nearest to 7,5 km/h

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

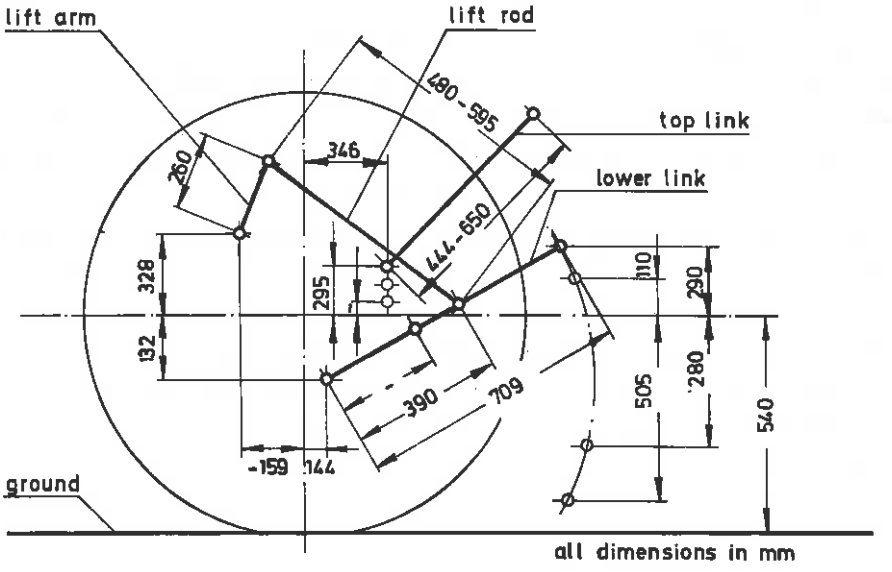
Date of tests: 27th March 1975

HYDRAULIC PUMP

(1)	Opening pressure of relief valve in remote circuit	180 bar
	Sustained pressure by open relief valve	175 bar
(2)	Pump delivery rate at minimum pressure and maximum engine speed	24,80 l/min
(3)	Pump delivery rate	24,17 l/min
	Delivery pressure	165 bar
	Hydraulic Power	6,64 kW

POWER LIFT

Dimensions of linkage geometry for the table on page 24



PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-373	-340	-300	-200	-152	-148	-100	0
at hitch points maximum mechanical advantage								
N						11250	11780	12950
minimum mechanical advantage								
N	11590		11810	12290			12750	13220

Max. force exerted throughout the whole range 11590 N

Front of tractor does not lift with maximum allowable front ballast

at test frame maximum mechanical advantage								
N		15410	13680	12520			12060	11780
minimum mechanical advantage								
N					10420		10650	10920

Max. force exerted throughout the whole range 10200 N

Force at which front of tractor lifts with maximum allowable front ballast 11780 N

PRÜFUNGS-ABTEILUNG

Test No. 74-171

0	+100	+200	+242	+272	+300	+400	+422	+500	+532
lift rods 480 mm long									
12950	13680	14390			14880	15420	15520		
lift rods 595 mm long									
13220	13680	14100	14100						

lift rods 595 mm long

11780	11360	10780		10200					
lift rods 480 mm long									
10920	10920	10890			10310	9380		8110	7650

All values of forces for pressure at max. hydraulic power 165 bar, see page 21; calculated from measurements at max. oil pressure 175 bar

LINKAGE GEOMETRY when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	709 mm	709 mm
Lift arms	260 mm	260 mm
Lift rods	595 mm	480 mm
Top link	510 mm	510 mm
Distance of lift rod connection point from pivot point of lower link	390 mm	390 mm
The following dimensions are given relative to rear axle centre line 540 mm above ground		
Lower link pivot point	144 mm behind, 132 mm below	144 mm behind, 132 mm below
Top link pivot point	346 mm behind, 295 mm above	346 mm behind, 295 mm above
Lift arm pivot point	159 mm behind, 328 mm above	159 mm behind, 328 mm above
Maximum and minimum heights of lower link hitch points	110 mm above, 505 mm below	290 mm above, 280 mm below
Heights of lower link hitch points above ground when locked in highest transport position	830 mm	650 mm

PRÜFUNGS-ABTEILUNG
FENDT FARMER 203 V
203 P

Test No. 74-171

OPTIONAL TESTS

(9) ENGINE PERFORMANCE

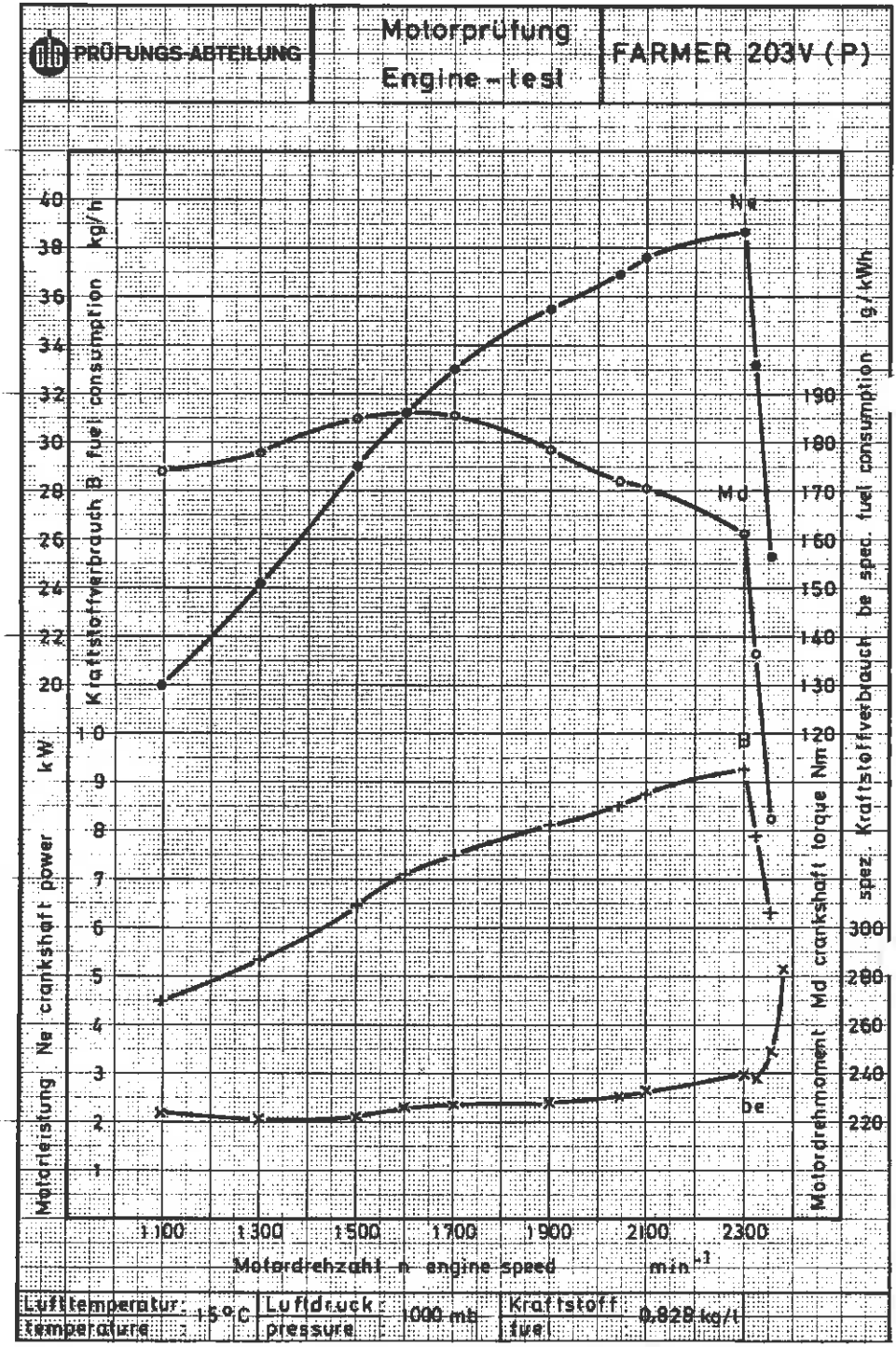
Date of tests: 21st and 22nd January 1975
Type of dynamometer: SCHENCK eddy current dynamometer W 150

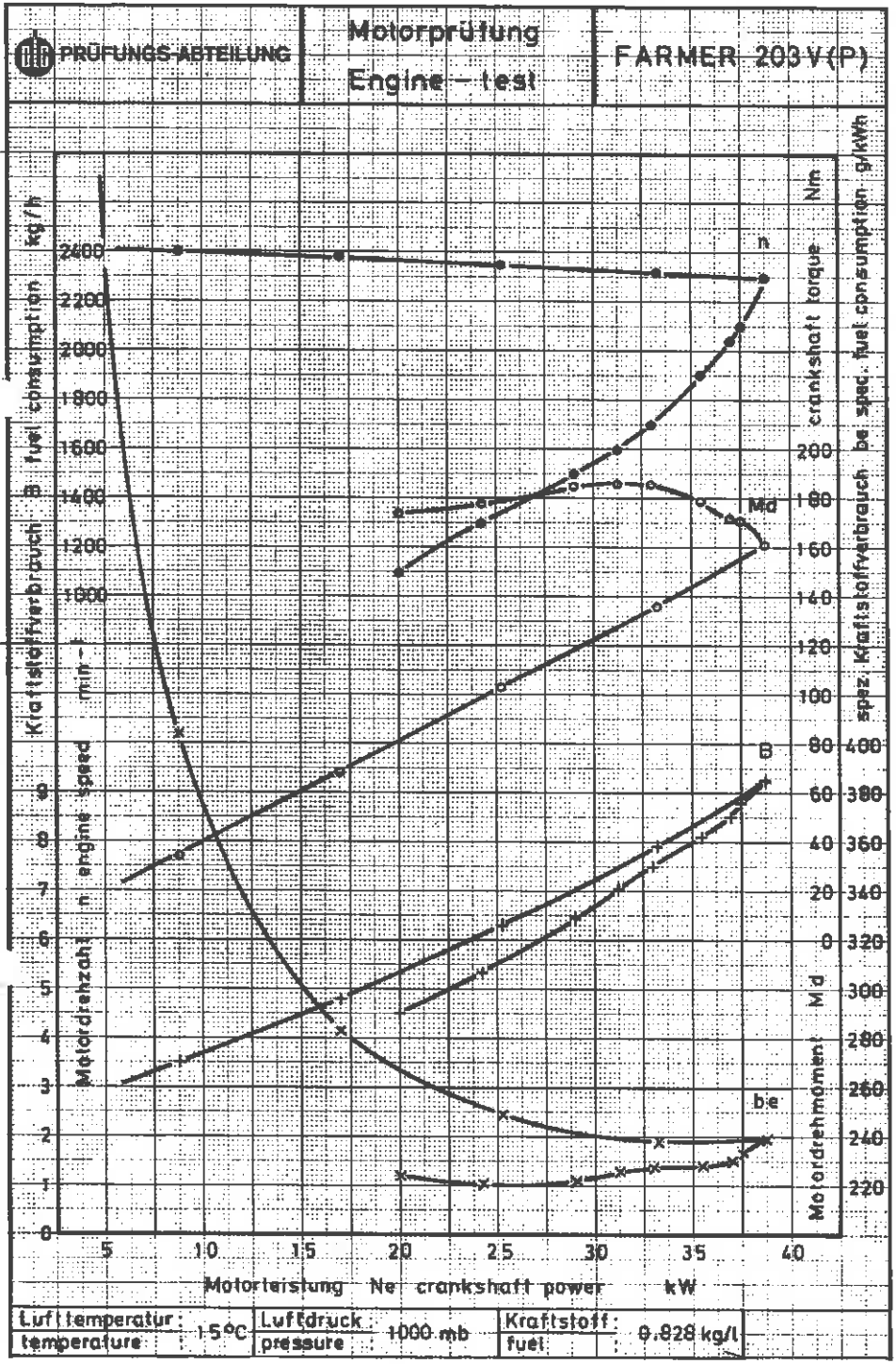
Maximum power

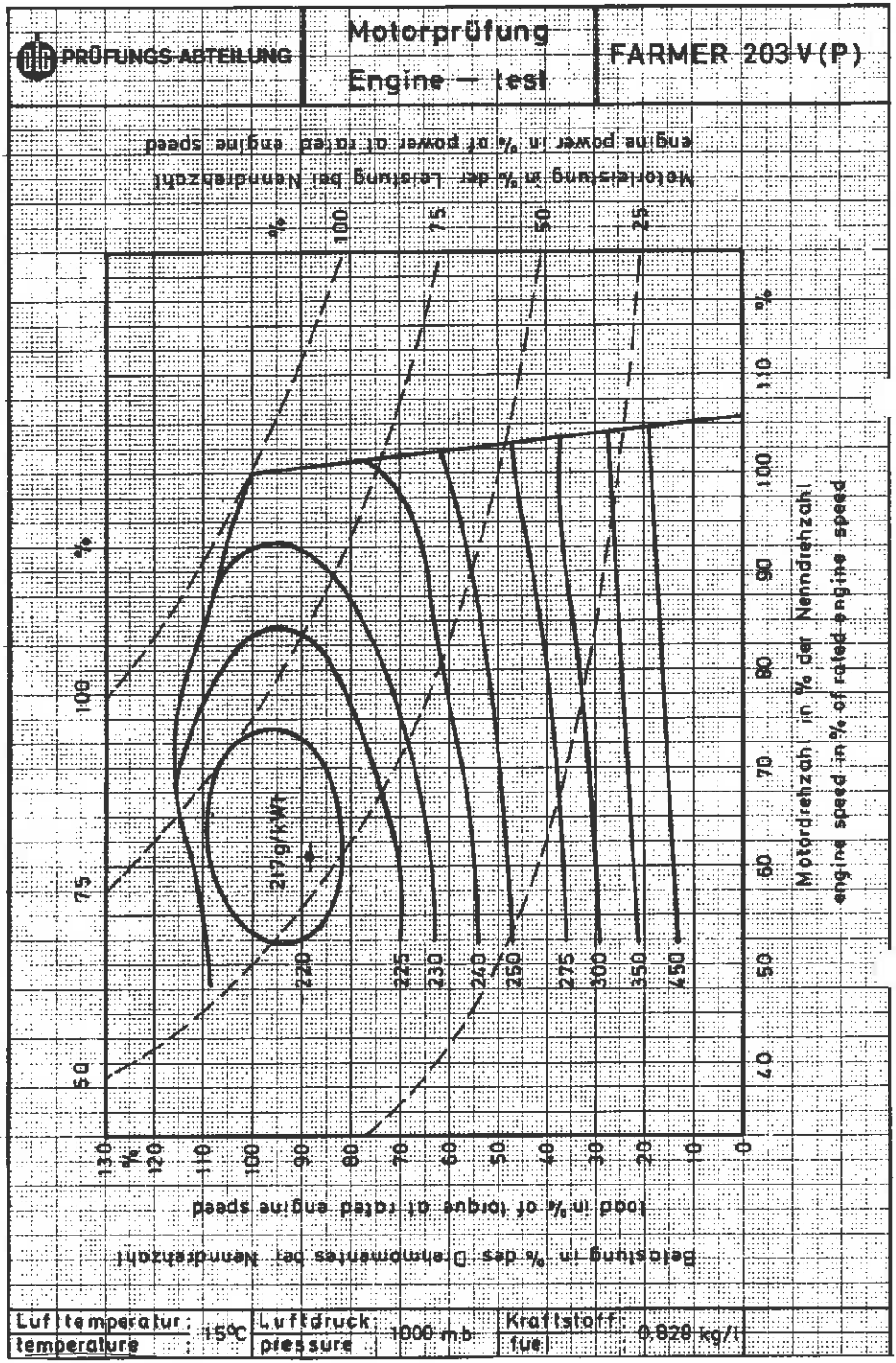
Power kW	Engine speed rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
At maximum power 2-hour test					
38,7	2300	11,16	9,24	239	3,48
At standard p.t.o. speed (540 rev/min)					
36,9	2044	10,24	8,48	230	3,60
At the speed recommended for drawbar work					
38,7	2300	11,16	9,24	239	3,48
Part loads					
(i) 85% of torque at maximum power					
33,2	2323	9,53	7,89	238	3,48
(ii) unloaded					
-	2430	2,64	2,19	-	-
(iii) 50% of the load defined in (i)					
16,9	2380	5,77	4,78	283	2,93
(iv) maximum power					
38,7	2300	11,16	9,24	239	3,48
(v) 25% of the load defined in (i)					
8,7	2406	4,25	3,52	404	2,03
(vi) 75% of the load defined in (i)					
25,3	2353	7,60	6,29	249	3,33

Optimum fuel consumption: 217 g/kWh at 20,9 kW and 1400 rev/min
Standard fuel consumption 1/2 (DIN 9606): 4,61/9,43 l/h
No load maximum engine speed: 2430 rev/min
Torque at maximum power: 161 Nm
Maximum torque: 186 Nm at 1600 rev/min of the engine

Mean atmospheric conditions:	temperature	15°C
	pressure	1000 mbar
	relative humidity	70%
Maximum temperatures:	coolant	not recorded
	engine oil	85°C
	fuel	15°C


PRÜFUNGS-ABTEILUNG
Motorprüfung
Engine - test
FARMER 203V (P)
Motorleistung Ne crankshaft power kW
Kraftstoffverbrauch B fuel consumption kg/h
spez. Kraftstoffverbrauch be spec. fuel consumption g/kWh
Motordrehmoment Md crankshaft torque Nm
Ne
Md
B
be
1100
1300
1500
1700
1900
2100
2300
Motordrehzahl n engine speed min-1
Lufttemperatur: temperature 15°C
Luftdruck: pressure 1000 mb
Kraftstoff fuel 0,829 kg/l


PRÜFUNGS-ABTEILUNG
Motorprüfung
Engine – test
FARMER 203 V(P)
Kraftstoffverbrauch fuel consumption kg/h
Motordrehzahl n engine speed min⁻¹
Motordrehmoment Md crankshaft torque Nm
spez. Kraftstoffverbrauch be spec. fuel consumption g/kWh
n
Md
B
be
Motorleistung Ne crankshaft power kW
Luft temperatur temperature 15°C
Luftdruck pressure 1000 mb
Kraftstoff fuel 0,828 kg/l


PRÜFUNGS-ABTEILUNG
Motorprüfung
Engine — test
FARMER 203 V (P)
Motorleistung in % der Leistung bei Nenndrehzahl
engine power in % of power at rated engine speed
Belastung in % des Drehmomentes bei Nenndrehzahl
load in % of torque at rated engine speed
Motordrehzahl in % der Nenndrehzahl
engine speed in % of rated engine speed
217 g/kWh
Lufttemperatur: temperature 15°C
Luftdruck: pressure 1000 m.b.
Kraftstoff: fuel 0.828 kg/l